METHOD AND APPARATUS FOR LOCK-FREE, NON-BLOCKING HASH TABLE

ABSTRACT OF THE DISCLOSURE

A method and apparatus are provided for an efficient lock-free, non-blocking hash table. Under one aspect, a linked list of nodes is formed in the hash table where each node includes a protected pointer to the next node in the list and a reference counter indicating the number of references currently made to the node. The reference counter of a node must be zero and none of the protected pointers in a linked list can be pointing at the node before the node can be destroyed. In another aspect of the invention, searching for a node in the hash table with a particular key involves examining the hash signatures of nodes along a linked list and only comparing the key of a node to a search key of the node if the hash signature of the node matches a search hash signature.